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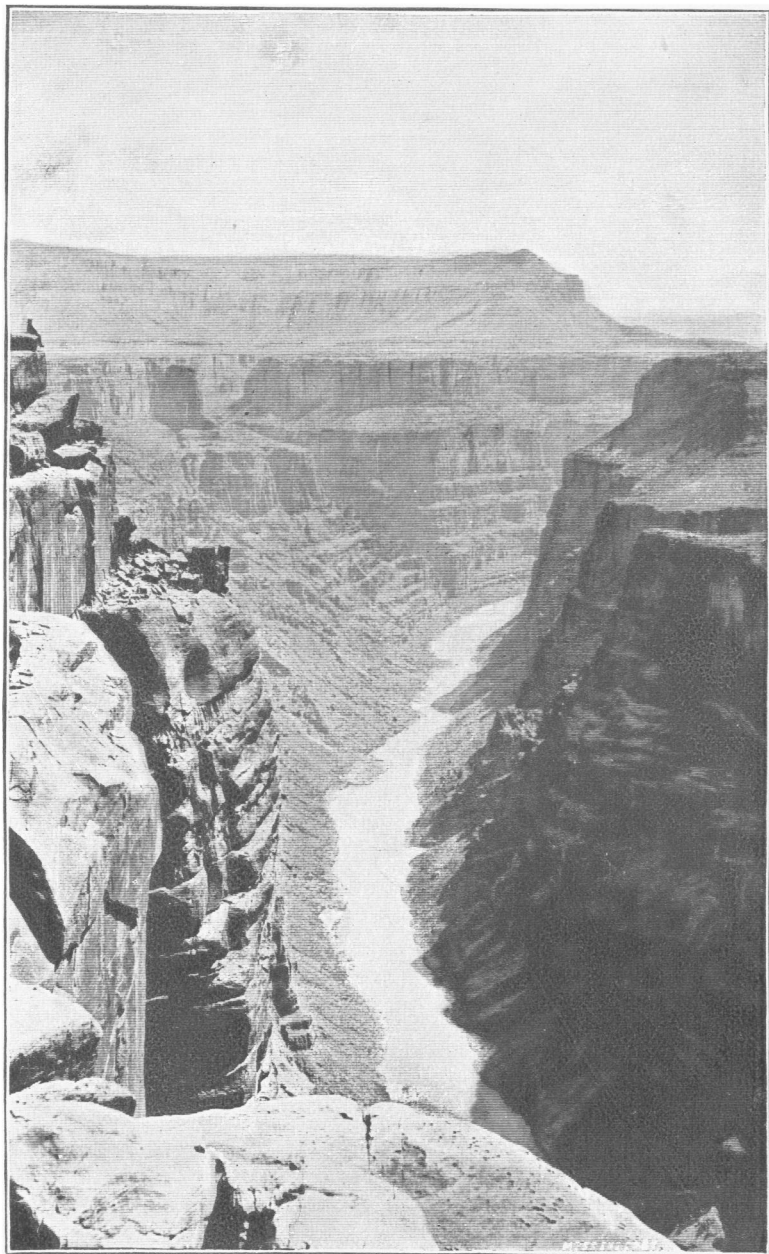
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GRAND CAÑON OF THE COLORADO,
Looking east from the foot of the Torowcap Valley. Depth at this point, 4,500 feet.

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THE GREAT WALLED RIVER.*

BY

F. S. DELLENBAUGH.

The Great Walled River is the most wonderful river in this wonderful world. Where is it? In some far country? In the heart of Equatorial Africa? In the Patagonian Wilderness? In the ice-locked regions of the far North? Not at all; but rising amongst the snowy ranges of our own magnificent West, and flowing its long course to the tropic seas entirely within our own domain. This river is only the Colorado of the West, the Rio Colorado Grande of the Spaniards; twenty years ago a mystery, a problem, a puzzle. For on its turbulent tide no man had ever voyaged far without meeting disaster or death, and the gifted imaginations of the frontiersmen supplied the unknown geography and marked the course and character of the mysterious river for more than a thousand miles to suit their fancy. The coloring was a little gaudy, but the reality falls not far short of the pictures of the early pioneers. The forbidding character and inaccessibility of

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this remarkable river are well attested by the fact that, although it was discovered by the Spaniards only fifty years after the landing of Columbus in the New World, it remained the great mystery of the continent for more than three centuries. And it is precisely the kind of a river we would expect the Spaniards of the sixteenth century—those enthusiastic, exaggerating, dare-devils—to discover, and throughout its course the Great Walled River is entirely in keeping with the romantic tales and marvellous exploits of that extraordinary period.

It is distinctly typical of those bygone days and deeds in its savage magnificence and in its mad, headlong plunge through the Rocky Mountains. Indeed, it seems almost out of place in our commercial country and our commercial time, and Commerce, thus far, has been unable to grasp it and put the modern yoke of utility upon the raging torrent which plunges, and roars, and dashes its angry foam high against the bounding walls, as if every rood of land and every drop of water was not in these days gauged by the standard of gold. It hurls defiance at the Almighty Dollar!

Niagara, the Yosemite, the Yellowstone, all in their turn have been lassoed by the speculator and coupled to the caravan of shows; but the Great Walled River rushes on in its primitive majesty, the sublime depths of its long chasms reverberating only to the ceaseless tumult of its own waters.

Yet its mysteries now stand revealed, and the long darkness has been dispelled, though the foot of the intruder and the keel of his daring boat passed years ago like the flight of an arrow, and left the river showing no trace of the invader, to continue unwatched, as before,

the fierce battle with the mighty walls. More than three centuries was required to mark upon the world's map the proper course and the true character of the great Colorado, but as early as 1541, Cárdenas, a captain sent by Coronado, a general of the Viceroy of New Spain, in search of a great river of which the natives had given some account, came to the brink of the Grand Cañon.

With what joy and satisfaction he must have peered into this unknown gorge, a wonder and a mystery in the new land of wonders and mysteries. The banks, no doubt, appeared to his astonished eyes just as he afterwards reported them, three or four leagues in the air, instead of the several thousand feet they actually are. Some of the party attempted to descend, but at last they came back unsuccessful, having accomplished only one third of the distance; far enough, however, for them to decide that the stream was a large one, and that rocks which from above appeared no larger than a man, were in reality higher than the Cathedral of Seville. About the same time another Spanish party entered the river from the Gulf of California and ascended a few miles in their boats, but the whole region was so formidable that little was determined. At the end of two centuries the river had been seen only in a few places throughout its long course of nearly 2,000 miles, and at the end of three centuries the white men who had looked upon it at a few points between the mouth of the Virgen and the Green River Ferry, where the Union Pacific Railway now crosses, could be counted.

In 1776, Father Escalante, with a band of Spanish priests on their way to civilize the Indians of the interior,

crossed at a point familiar to the Navajo Indians, which till nearly as late as 1870 was the only crossing available for white men in a distance of over 600 miles. It has always been known as "The Crossing of the Fathers." Another place called Lee's Ferry, 35 miles farther down, is now practicable, though not for fording, and the Mormons have still another crossing, somewhere above, near the mouth of the San Juan. In 1857, the government ordered Lieut. Joseph C. Ives, of the Army Engineer Corps, to have a proper boat constructed and determine for what distance the river was navigable above its mouth. The region had recently been acquired by the United States, and a military post, Fort Yuma, had been established seven years before, 150 miles above the gulf, to protect emigrants who were rushing to the gold fields of California. Lieut. Ives succeeded in exploring as far as the mouth of the Virgen River, and then abandoned further attempts to ascend. The last 25 or 30 miles had been accomplished with extreme labor and danger through Black Cañon, and the explorer wisely decided against any effort to penetrate farther. A land expedition was successful in revealing to the party the Grand Cañon at the mouth of Diamond Creek, a point a few miles above the foot of the gorge. Attention was then drawn away from this part of the country by the breaking out of the civil war; and it was not till 1867 that any thought was again bestowed upon the Great Walled River. In that year Maj. J. W. Powell, a soldier who had learned what hardship is, in the weary four years' struggle for the preservation of the nation's life, was pursuing his favorite study of geology in the "parks" of Colorado, and the accounts of the wonderful river which he received from

his hunters, fired him with the ambition to clear up the mystery—with an eager desire to determine positively whether, besides being hemmed in by mighty walls, the river flowed underground and over gigantic precipices, and was impassable, as the stories ran ; or whether it was less extraordinary and would succumb to prudence and skill, as many other formidable things have had to do. At the battle of Shiloh he had lost a good right arm, but he believed, with the other, he could begin in Wyoming and trace the torrent to the point where Ives had left it. After long study of the country, he formed a plan and proceeded to carry it out. It was a costly experiment, and the funds at his disposal were limited ; but finally, with four small boats manned by hunters and prospectors, he made an undaunted start from Green River Station, on the Union Pacific Railway. No adventure of the adventurous Spaniards was ever fraught with more uncertainty, more danger, more romance, than this first voyage of Major Powell's down the Great Walled River. Three months later, half-starved, half-naked, utterly worn out, minus four men and two boats, the little party reached the mouth of the Rio Virgen. One boat had been early wrecked in the Cañon of Lodore ; one man lost courage and deserted at the first opportunity ; and three, appalled by the appearance of a great rapid in the Grand Cañon (near the end of the journey it proved), abandoned their boat and the party, and scaled the 4,000 or 5,000 feet of walls, only to meet death at the hands of the savages dwelling on the plateau above.

Out of the ten men who started, six only, therefore, accomplished the wonderful voyage. These six were the first and the only human beings ever to pass entirely

through the Grand Cañon ; though there is a story about a man named White, who, picked up about a year before near the mouth of the Rio Virgen, claimed he had made the passage on a raft. The man who picked him up and fed him assured me a year or two ago that he was satisfied that White told the truth, as he was bruised, ragged, famished, and wellnigh dead from exhaustion.

Though the expedition had cleared away the mystery, instruments had been lost or damaged, and the scientific data collected were of little value. In consequence of this Major Powell immediately invoked the aid of Congress for a second voyage, to enable him to thoroughly explore the remarkable stream and the region through which it had carved its way. An appropriation was granted ; the work was placed under the direction of the Secretary of the Smithsonian Institution, and in the spring of 1871 the boats were launched on Green River, at the railway crossing. It was my good fortune to be a member of this expedition. Of the former party Major Powell himself was the only one, for this walled river offers even less inducement for a second acquaintance than for a first. One man who had been on the first was eagerly and confidently expected up to the last moment to join us, but somehow or other there was a great deal of snow about that time in the mountains where he was, and he could not get out. We all thought it strange an old mountaineer should find snow such an obstacle to his desires, but when we had been in the Grand Cañon a few days nothing was plainer than that being snowed in is sometimes a very convenient and happy kind of misfortune.

The boats were not peculiar except in being furnished

with three water-tight compartments each ; that is, they were decked over, all but two spaces for the rowers, each of whom was to handle two oars. The steering was to be done by means of a very long, heavy oar at the stern, as a rudder is useless in such currents as are encountered on the Colorado. I must confess that the first time I saw these boats I felt a slight chill creep down my back ; a premonition probably of the numerous cold baths I was to take as the bow oarsman of one of them. They looked as if they expected to go under water a good deal, and they certainly were not disappointed in their expectations. There were three of them, each twenty-two feet long, narrow in the beam, and quite deep for boats of their size. They were built in Chicago, of oak, as strong as was possible without making them too heavy for the crews to lift. The only railway across the continent at this time was the Union Pacific, finished a year or two before, and when we crossed the muddy Missouri on a ferryboat, and rolled out across the vast sea-like plains on the single, rudely-constructed track, we felt that we had indeed left the "States" behind, and were booked for two years in the wilderness. The month was April, and a light fall of snow added to the dreariness of the landscape, giving an extra forlorn appearance to the several tents and shanties which at that time constituted Green River City, where we arrived one morning very early. The party—eleven in all—was quartered in two vacant huts, and began immediately after breakfast to prepare for the voyage. The boats were hauled out on a convenient beach, and there given some finishing strokes to render them stauncher if possible, and better able to withstand the blows of rocks and

ponderous billows in the fearful tide that thunders against a thousand miles of giant walls carved through a lonely waste of mountains. However much we may find fault with civilization, it has some advantages, after all, over an untenanted wilderness. Even the puffing locomotives passing by; even the chattering Chinamen, seemed like friends to us now—or, at least, they did to me. And the dried-apple pies to be had at twenty-five cents apiece at the so-called restaurant! Well! they were, I assure you, luxury itself after a few days' struggle with Andy's biscuits; for, to say truth, our Andy had never cooked before he engaged himself in that capacity to our expedition, and he knew nothing about the proper combination of soda, cream of tartar, and flour to produce edible bread in the Dutch oven. Picture, then, the golden hue and extra solidity of the little balls he laid before us three times a day, accompanied by a frying-pan full of greasy bacon, and a huge kettle of coffee that had boiled for half an hour. Strange to say, however, the entire array vanished like frost before the morning sun. With constant practice Andy improved, and this, together with the sauce that hunger adds, caused a bowl of bean soup to eclipse, before long, even the dried-apple pie of Green River, and a slice of common bacon to surpass the rarest dish at Delmonico's. With the inner man thus strongly fortified by Andy's skill we were enabled in the course of two weeks to man the oars and pull out. The cargoes were all cased in rubber bags, and every thing was as it should be. Almost the entire population of the "city," excepting the Chinamen, turned out to see us off—there must have been at least fifteen men, women, and children. One

man, a deaf-mute who had been on the river above, took infinite delight in going through a pantomime performance to inform us that we were doomed to destruction; that we would be wrecked, and all attempts to climb the perpendicular walls would be fruitless; we would all drown. Nothing could stop his wild gesticulations, and they were the last thing we saw as we pushed off. Responding to the wild cheers of the assembled populace, we were swept down by the current, and a bend soon cut off our view of this last forlorn outpost of civilization with its warm-hearted pioneers.

It was a second descent to be sure, that we were undertaking, and we knew what to expect in the way of falls, wherein we had an advantage over the former party; but a second or a third voyage down this Walled River might fairly be likened to a second or a third attempt to jump safely from the Brooklyn Bridge. When Powell started the first time a man named Hook, who, I believe, enjoyed the distinction of having been first mayor of Cheyenne, asserted that if Major Powell could go down the river, he could go too, and he forthwith gathered a party, and, building some boats, followed in the wake of the explorers. Unfortunately, their boats were open and frail, and their zeal ran away with their prudence. Not far down, in Red Cañon, they came to grief. Poor Hook was drowned, and after digging a grave for him on a sandy bank, the remainder of the party made their way back on foot to their starting-place.

The fate of Hook gave further emphasis to the uncertainty of this kind of navigation, and we found material for reflection in the two facts that we had a long stretch of it to put behind us, and a difference of about 5,000 feet in altitude to overcome.

Green River Station is 6,000 feet above sea-level, the mouth of the Rio Virgen, our destination, is less than 1,000. There was no danger of losing the way, for that was carved literally through the bowels of the earth—through cañon after cañon, deep, rugged, and desolate. The Green River—the upper continuation of the Colorado, the difference in name being a mere accident—is not of a dangerous character at our starting-point; for it is there only a couple of hundred miles from its source; indeed, except at high water, it looks very tame and small. Rocky Mountain streams, however, are treacherous, and in a single night even a dry watercourse may transform itself into a mighty flood dealing destruction to every thing in its way. Neither did the river run here through a cañon, but a rough, barren country studded with high, rocky buttes which sometimes impinged on the shore. The current was swift with the spring flood when we started, and we were carried along at a rather uncomfortable and reckless speed, grating occasionally on shoals we could not avoid, and breaking an oar or two.

Our large supply of provisions, scientific and photographic instruments, guns, ammunition, tools, and baggage, brought the gunwales down to within three inches of the water. Of flour alone, there were 1,100 pounds, in 22 rubber sacks. To start thus well provided was necessary, for there would be no opportunity to add to our supplies any thing but chance game till we should reach the mouth of the Uinta River, some three months later, where arrangements had been made for additional rations to be brought in from an Indian agency forty miles up that stream. At three points we expected to replenish our larder in this manner. The snowy peaks of the Uinta

Mountains soon came into view, apparently barring the way, but we knew the river had met and conquered them, and had pierced the heart of the range. Passing the mouth of Black's Fork on the right, the valley became wider than usual and the course of the river was very tortuous for a number of miles, but on the fifth day it suddenly straightened out and made directly for a precipitous ridge about a thousand feet high, that extended far in both directions across the country. At the foot of this barrier the river seemed to vanish, for there was no appearance either to right or to left, of its continuation; and there was no apparent opening for it through the ridge, but a cliff of bright red rocks, rearing itself to the westward of a depression, and gleaming in the sunlight above the more modest hues like an enormous flame, was pointed out as the top of Flaming Gorge, the beginning of the extraordinary walls, that with the exception of a few breaks, or rather expansions, lock the river in for more than a thousand miles and find no parallel in the known world. Suddenly at the foot of the ridge, a short distance below the mouth of Henry's Fork, a small stream coming in on the right, the river doubled to the left, and we found ourselves between two low cliffs; the next moment it doubled to the right and we shot into the beautiful cañon, the brilliant rocks looming a thousand feet above our heads.

A grove of fine cottonwood trees, on the left side, added their rich green to the landscape, suggesting a camp, and as we looked we discovered the other boats, which had preceded us a few hours, swinging at their lines on the glassy surface of the water, while a film of blue smoke, rising and wasting itself on the gusty air,

completed the picture and told that Andy had laid down the oars only to take up the frying-pan. A patient man was Andy. As he himself remarked, he did not know much about our "bomometers," "threeoddlites," and "blank science business," but I can testify that he never shirked the smallest duty, and that is a record to be proud of.

From this camp we set out again on the smooth, swift water, expecting a rapid at every bend, but it was not till the river had turned sharply to the left and entered a more closely walled cañon that we came upon the enemy. It was a small specimen, passed in a moment, but I believe we began our enumeration of rapids with it, and it is distinguished by being the first of the six hundred, great and small, we scored on the journey. The left side of Flaming Gorge had not been vertical, but the cañon we were now in had a perpendicular wall about a thousand feet high on the right, the base of which we could have touched as we sailed along, while that on the left, though somewhat higher, was ragged and receding. The highest point in this cañon is 1,600 feet. Not a sign of life, except a few birds, was to be seen, though in this respect it did not differ from all the other cañons; indeed, farther down they are deserted even by the birds. A solemn stillness prevailed, disturbed only by the receding murmur of the little rapid. This cañon, called Horseshoe—a most unusual name, I wish to remark,—from the great bend the river here makes, was not long, and by dinner-time a lowering of the cliffs and a breaking or expanding announced the end of it. A little farther on another narrowing of the rocks made a third gorge with walls from a thousand to fifteen hundred

feet high. It was a beautiful cañon. From the large number of kingfishers flying about, the name of these birds was applied to it. At one place there were so many fluttering about the rocks that they suggested bees around a hive; and it was called Beehive Point. No obstacle to easy progress was encountered; there was nothing to mar our enjoyment of the magnificent surroundings. If the whole river, we began to think, is like this, our journey will be nothing but a pleasure-trip; and that night as we sat by the camp-fire, under some cottonwoods, where another widening of the rocks ended Kingfisher Cañon, we talked about what we would do when we reached the mouth of the Rio Virgen, till the Major smiled at our sanguine plans and said: "Wait till you see the end of the Grand Cañon." A short distance farther down the walls ran close together again, closer than in any of the three small cañons above, and the river disappeared entirely from view. It was the beginning of Red Cañon, so called from the color of the sandstone walls, which continue unbroken for twenty-five miles. A sullen roar was borne up to us from out of the dark gorge, and I climbed as far as I could up the steep slope back of camp, with the hope of catching a glimpse of the rapids that promised to soon entertain us, but I could not see them; nothing but rocks met my sight. For two days we listened to the ominous roaring while accomplishing necessary work, and then, on a bright Friday morning, with every thing as tight and fast about the boats as it could be made, and our rubber life-preservers inflated and ready for service, we pulled out into the river, heading for the mysterious narrows. Quickly the red walls shot up on each side, and a wild scene opened before us. The

channel of the river was thickly studded with rocks, amongst which the fast descending water plunged and beat itself into one great sheet of foam—a river run mad. Headlong the boats dashed into the seething mass, rising and falling with fearful violence on the huge waves. Hither and thither we were swept, dodging rocks as best we could, avoiding the walls, and speeding down with tremendous velocity. Glancing back for a moment we saw our second boat getting into serious trouble, but we were powerless to render assistance. As we cleared the worst of it we were hurled so close to the foot of the right-hand wall that one of our rowlocks was torn off. At the same instant a last glimpse was obtained of the second boat as she capsized and struck heavily on a mass of rocks that reared itself above the boiling surface. I laid all my strength on my oars to gain a sandy beach that fortunately came into view on the left, but with so heavy a boat one pair of oars made poor headway, and we were hurried down sideways so fast we thought the landing would fail. At length, however, the boat struck bottom a dozen yards from shore, and we jumped into the water, succeeding after a short struggle in arresting progress and reaching the beach. At the same instant the third boat shot like an arrow alongside. No. 2 was reported still upside down on the rocks, but with the crew working hard to get her off. Nothing could be done by us, so we waited. In about three quarters of an hour the unlucky boat hove in sight, and came in to us. Except a bad pounding and a crushed plank she was staunch as ever, while the crew were in the best of spirits, and made haste to claim the glory of the first capsize. Then we proceeded, running rapids or making “let-

downs"—that is lowering the boats by lines without unloading. Our clothing was usually saturated the whole day, and we were always glad to get into camp and change to dry clothes from our rubber sacks, throwing the wet upon a rock, to be resumed in the morning.

The walls of Red Cañon are extremely precipitous, but not rising vertically, in many places, from the water; masses of talus and alluvium with trees and shrubs intervening. They are generally about 1,500 feet high, but at one point they rise to 2,500. One Sunday we passed the place where Hook was drowned, and paused to glance at the rude pine board, inscribed with his name, and stuck in the sand at his grave. Here the unfortunate man had found his last resting-place; in the grand solitude rarely disturbed by human beings—a whole splendid cañon for his tomb. The disaster to Hook recalls a story of an Indian who attempted to run through this cañon. It was related by one of the tribe in the following language: "Rocks-he-a-p, h-e-a-p high; water go hoo-woogh, hoo-woogh; water-pony (boat) heap buck; water catch-um; no see um Injun any more, no see um squaw any more, no see um pappoose any more."

At one place the name "Ashley," with an illegible date below it, was found written in large characters on a rock beside a sharp rapid, and the rapid was called Ashley's Falls. Ashley, it is said, was one of a party that made an effort to descend the river many years before. Their boat was wrecked in the cañon not far below their starting-point (Brown's Park), and some of them were drowned; the remainder struggling across the country to Salt Lake City.

From Ashley's Falls the river made a rapid descent,

running like a mountain brook, and often filling the boats with water. The walls continued to rise till they reached 2,500 feet, when they began to drop down again, and finally growing less and less towering in their proportions they receded from the river, and we emerged into a valley, called Brown's Park, where for thirty-five miles there was comparatively open country. We had now descended 588 feet in less than a hundred miles; in fact, the most of this descent had taken place in the twenty-five miles of Red Cañon, where the river probably falls about 16 feet to the mile. Sixteen feet does not seem much when scattered over a mile, but if you will remember that it is not a regular descent, and that, at times, the drop of a whole mile is concentrated within a few rods, you will understand something of the nature of the Green River in Red Cañon. In Brown's Park the current was sluggish; and though two very small, pretty cañons intervened, it required constant pulling at the oars to get the boats along; a dull process after one has been carried for miles like a feather before a gale.

But this did not last long—only a day or two,—and then, looking ahead, we could plainly distinguish the huge cut—a sharply defined opening in the side of the lofty mountains; not like a gap with the sky beyond, but like the doorway into a house—a huge doorway:—the Gate of Lodore. One fair evening found us in camp on the very threshold. The river narrows and vanishes from the sight through the most magnificent portal in the world; the barren red rocks lifting themselves two thousand five hundred feet straight into the sky.

On Saturday, the 17th of June, immediately after dinner, the boats were carefully packed, a camp-kettle being

left in each standing-room for bailing purposes, the life-preservers were inflated and placed in the most convenient places, and we started.

How glorious, how sublime was the scene ! The calm air was unbroken by the slightest sound of falling water, or the faintest indication of the "mighty uproar" toward which we were advancing, and the subtle river, deep and swift and smooth, hurried us into the majestic depths, and silently closed the giant gates of rock behind. In this cañon a boat had been lost on the former voyage, and not desiring to repeat that experience, we proceeded with great caution. A distant murmur soon fell on our listening ears, announcing the approach of the first encounter. In about fifteen minutes the rapid came in view, and we were relieved to find it free from rocks and easy to run. Several then followed in quick succession, but so clean was the descent that the boats shot down like toys in a little brook, and we had time to look around. A symmetrical promontory so impressed the Major with its resemblance to a great wheat stack, that that name was affixed to it. We began to delude ourselves with the idea that Lodore was not such a terrible place as we had supposed, when another louder, angrier roar, with a ring to it that spoke emphatically of trouble ahead, broke the receding murmurs of the last. A landing was effected close to the head of the descent, which proved no greater than some of the preceding, but was full of large rocks, showing in an ugly way through the foam. The water above was comparatively quiet, and when we started again we pulled up stream some distance before attempting to get into the middle of the river.

Another minute, and we were flying through the rocks

and foam at railway speed. The boat rolled, and tossed, and pitched, while the water swept over us in a deluge, but we were at the foot almost before we knew it. The tremendous velocity of the river at one of these descents causes it to roll up in waves larger or smaller, according to the amount and nature of the fall. The same action may be observed in any brook with a rapid descent. These waves are not like sea-waves. In the latter it is the form which moves, while in river-waves the form is almost stationary and the water moves.

Given, then, a great volume of water rushing down a steep incline, we have a long "tail" of waves diminishing in size toward the lower end. A craft once launched on such a tide knows no stopping till quieter water is reached. The walls, continuing unbroken, grew gradually higher, the upper portion being generally almost perpendicular. The color was a rich brown, and the rocks were mostly sandstone. In considering these cañons carved thus through the mountains, it must be borne in mind that they are not the result of volcanic action, or of earthquakes, as some have supposed, but they are the result of the action of a river on mountains as they were forming; that is, the river is *older* than the mountains, and as the upheavals and folds producing them took place, the river cut them down, the storms of ages wore them away and sawed a channel through them.

As we were being carried along with reckless speed one day, we saw, only a few hundred yards below, a most forbidding fall. No fair view of it was to be had from the boat as she sped on, and the eddies and counter-currents which we generally took advantage of in making a landing in such a place, were absent. The whole mass

of the river bore down upon the place with an eagerness to get over it that was unpleasant. Somehow or other we must land, for to take the rapid blindly would never do. The Major ordered an attempt to be made to reach the right bank, where there was, fortunately, a footing. We laid on our oars till, stiff as they were, they bent like reeds, and we feared each fresh stroke would snap them.

We almost reached the shore; it was less than a boat's length away; but the fury of the river was sending us fast broadside on down to the rocks, now very near, where the water boomed and thundered. The oars were powerless; the current ran faster than we could move them. There was but one chance. The water near the bank did not appear deep; we could jump out and stop the boat, if possible, by bracing ourselves against the rocky bottom. We must stop at once. We could almost touch the bank. We jumped. The water was up to our waists, but so fierce was the current that our united efforts failed to prevent our being dragged a yard or two, and a yard or two at such a time seems a great distance. Every muscle was strained. The boat paused; it yielded—another second and we had her fast to the shore. Scarcely was this accomplished, when the second boat came flying down. As we looked, it seemed impossible to stop her. We rushed into the water as far as we dared, and caught her as she came in, and clung to her with all the strength we possessed. As soon as she yielded and was safe, the third boat was approaching with equal speed. Again we made the plunge, and as our number was increased, we were easily successful. Then we had dinner. Meanwhile a survey was made of

the rapid, and the feasibility of running it having been determined, we packed up and dashed through it like a whirlwind. A number of smaller ones during the afternoon of this day gave us no trouble, but near evening we came to a place where the river dropped into a "sag," and then fell over two very bad rapids close together. The dangerous sag was observed in time to avoid it by hugging the left shore as closely as possible. Once enter this sag, and no human power can save a boat from the great plunge below, for the water is swift and like a shallow bowl, a quarter of a mile long. Rounding a low point, we saw with relief a broad, smooth bay, across whose quiet waters we pulled slowly in the deepening shades of approaching night, the western wall rearing its gloomy face sharply against the mellow sky, while the loud roaring of the river at its base added to the impressiveness of the scene. Nothing could be more striking in contrast than the delicate colors of a fading sunset, seen only in the zenith, and the dark shadows filling the deep chasm and fairly quivering with the reverberations of the tortured river. Disaster Falls this place was named, because it was here a boat was wrecked on the first voyage. At the head of the first plunge we camped. It required a day and a half of hard work to get below the two rapids. At the head of the second, on a high rock, a hundred-pound sack of flour, that had been rescued from the wreck nearly two years before, still rested intact. It was cut open, and Andy made our dinner biscuits from it. So far as I could tell, the long exposure had not injured it, but as we had all we could carry, it was left where we found it, and where doubtless it lies to this day. Below the second fall, the remains of some cooking uten-

sils were found, supposed to have belonged to the Ashley party, which was probably wrecked here. Rapid now followed rapid, and the walls rose higher every day till Dunn's Cliff, looming up 2,700 feet, was reached. Triplet Falls, Hell's Half Mile, and dozens of other rapids were successfully passed. We were getting on famously. Sometimes at night we camped where the roar of water was deafening, and we could only converse by shouting at the top of our lungs. Scarcely for a moment were we out of sound of the roar of water.

In these upper cañons pine trees grow in many places down the ravines and cliffs to the water's edge, lending additional beauty to the view; but in the lower gorges the walls are bleak and barren of verdure. One reason for this is that, in the West, pine trees grow only at certain altitudes, and as the river descends toward the sea the tall pine is seen higher and higher above the stream, while the piñon and scraggy cedar take its place. Finally even these disappear, leaving the rocks destitute of vegetation, with the exception of cactus, yucca, or an occasional mesquite growing in a crevice. The Cañon of Lodore, taken all in all, is perhaps the finest in the whole long line, its walls rising to magnificent heights; its rapids reckless, roaring plunges; and possessing the charm of forest trees here and there.

At last we neared the end of the wonderful cañon, and we were not sorry. The constant tumult, and noise of water, the pitching and tumbling and carrying of boats and provisions grew wearisome; we desired a change for at least an interval; and one day about seven o'clock, as the narrow sky was growing tender and the night-gloom was once more settling down upon us in

the gorge, the sound of the last rapid we had run grew fainter; the river ran smoothly; a silence fell about us that seemed deathly; the walls dropped to no more than 600 feet at the river, and widened to such an extent that a few acres of low ground came into view on the left, and we found ourselves in Echo Park. A large river, the Yampa, came in from the east. We ran up the quiet mouth of it several hundred yards and camped on its right bank. Lodore was behind us. Our altitude was now only 5,080 feet, showing that the descent for the twenty miles through Lodore was about 420 feet, or over twenty feet to the mile. The perpendicular cliff on the right returned an unusually fine echo, and from this the place was called Echo Park. As the Yampa enters the park through a long deep cañon, there was no fear of disturbance of any kind, and we sank upon our blankets to enjoy the tranquillity of the night. There are but four ways of entrance into this park. One down the Green, the way we came; one up the Green; one down the cañon of the Yampa; and the other by an Indian trail, through a small lateral cañon. A more secluded place would be hard to find.

Hillers tried his hand at fishing, meeting with better success than anywhere above, for he caught two large sluggish fish, one four feet long. We called them salmon-trout.

A short pause was made here while a party ascended the Yampa a few miles, and then our journey was continued. Following along the base of the Echo Rock, we presently turned sharply to the right, passed around the end of it, and entered Whirlpool Cañon, so named because of numerous whirlpools encountered there by the first ex-

pedition. The Echo Rock was now seen to be but a tongue of homogeneous sandstone, 600 feet high, as many hundred yards thick at the thickest part, and about a mile long. In a short time we were directly opposite our starting-point, and not far from it in a straight line, but with the sandstone wall between.

Then up rose the rocks again, forming high walls that came closer together than at any preceding place. Our ears were on the alert for the familiar sound of falling water, but for a long time we sailed on without encountering any obstacle. The splendid many-colored walls, carved and terraced by the storms of countless centuries, towered above till the strip of deep blue sky seemed to rest upon them like a painted ceiling; it was like the nave of some gigantic cathedral, with a piece of heaven itself for a roof. Suddenly the dull roar of a rapid sounded ahead, and it was not long before the swift current took us down to it. A violent rocky place it was, where the river was torn to white tatters, but at length we were below it, going on with the stream now running like a mill-race. The walls widened and grew broken and irregular, but reaching the height of 2,400 feet before they showed signs of breaking away. In two or three days we had accomplished the fourteen miles of Whirlpool, and the walls were replaced by beautiful rainbow-colored hills. The descent from Echo Park had been only 80 feet, and this had occurred principally in three or four places. The river now availed itself of the release from bondage, and played hide-and-seek with numerous small islands that bore groves of cottonwoods. The channels were so shallow, at times, that our keels grated on the gravel; but we soon left the islands

behind and the water became deep again, though sluggish and black. It seemed to be tired.

Moving the heavy boats was no light work, and we proceeded lazily, longing for swift water, and admiring the wide expanse of sky and the wonderful coloring of the surrounding hills. This was Island Park. Before sunset the winding river brought us to the jaws of another cañon—another grim gateway into a mountain. The next day some of us were sent to the top of this gate on the opposite side. It was a hard climb, for the summit was 3,000 feet above camp, but the view that spread out beneath was worth climbing a week to behold. Far, far below, the gleaming river wound its tortuous course from the mouth of Whirlpool Cañon, through Island Park, till directly under us it cut into the rocks again, where it was visible to us for several miles, churning its way along between the two precipices. I wish I could convey an adequate impression of the vastness and magnificence of this view, but the pen and the tongue are powerless before the task; indeed it is surprising that the eye itself is not stunned by the immensity of the panorama from such a height, in such a country, and it is, for me, difficult to decide where the greatest wonder lies;—in the glory and grandeur of the scene, or in that subtle power that takes it in, and sets the picture clearly before us, color for color, shadow for shadow, the counterpart of nature.

Early one Sunday morning we left the Island Park camp, pushed into the middle of the river, and glided down with an easy dipping of the oars toward the yawning gorge that would lead us into the next cañon, the eighth of the series. The current was smooth, and in a

few minutes the massive layers of stone, one against another, regular and compact as in a veritable artificial wall, sprang out of the water on both sides, gradually curving over to the horizontal and breaking into a thousand—aye, ten thousand thousand—craggs, as they grew higher. It was the beginning of a gash 8 miles long and 2,500 to 2,700 feet deep, through a great upheaval; the beginning of Split Mountain Cañon, so named because the river has here actually split a mountain in twain by the constant dashing of its waters. As the mountain was pushed up by the subterranean forces, so the river cut into it, sawing it apart from end to end. A raindrop is an apparently insignificant thing, but, in reality, it is a ceaseless and mighty destroyer, a wonderful sculptor, playing with this world of ours as children play with sand; carving, moulding, and sweeping away. Here it had cut a mountain in two, and chiselled the rocks into a multitude of minarets and spires, only to throw them down, grind them into powder, and dash them hundreds of miles away into the sea.

Three days of saturation and bumping amongst the boulders and foam brought us to where the strata came solidly together again and began to descend. Presently they curved gracefully over and disappeared under the water, exactly as they had come out of it 8 miles above. A broad valley now opened before us—the Wonzits or Antelope Valley,—and we might be on the look-out for Uinta and White River Utes. The valley is about 80 miles long, with broad stretches of alluvial soil, and large groves of cottonwoods here and there along the river. The comparatively level ground sometimes extended back for several miles, meeting the foothills of the

bounding mountains. The men soon sighed for rapids, for the current was gentle, and the boats pulled hard.

Opposite the mouth of the Uinta River we made a camp to wait for the arrival of supplies from the agency, forty miles away. We had been for a week or two entirely without soap, and when the supplies came, the first thing the men did was to seize a box of laundry soap, break it open, and rush to the river, each bearing a cake of it. To this day, common laundry soap is fragrant to me because of the association with that delightful hour. An Indian runner brought the information that the Mormons who had been charged with the duty of meeting us at the next appointed station with more supplies, had been unable to make their way through the unknown and terrible country to the designated point, the mouth of Fremont River, and were obliged to give up and beat a retreat. As one of our party afterwards remarked when in the same region: "No animal without wings can travel there."

Our plans were somewhat altered by this failure to reach the mouth of the Fremont (or Dirty Devil, as it was first called), and Major Powell left us for Salt Lake City, about two hundred miles distant, from which place he would rejoin us in a valley a hundred miles farther down, bringing rations enough with him to tide us over to the third supply station, the Crossing of the Fathers. As soon as our new supplies were properly sacked, the oars were resumed, and we set out on a comparatively sluggish current for the Cañon of Desolation, twenty miles away.

Our clothes by this time were tattered and torn; and our shoes were more than half worn out. Getting into

the water so often was very hard on them. From a Ute Indian Hillers had learned to make moccasins with raw-hide soles, and he manufactured a pair for each man in his spare hours. These we could use for walking and climbing in dry weather. Before we arrived at winter quarters we were a spectacle to behold. Nothing but overalls, shredded to the knee, shrunk undershirts that clung to us like gloves, and shoes patched and nailed together in every conceivable way, was left to us. Some miners said we were the most dilapidated specimens of mankind they had ever seen.

About 250 miles of the journey were behind and we had descended altogether a little over 1,400 feet (1,418), 330 of which had taken place since leaving Island Park. The stream was now, in some places, nearly a mile wide, and swarmed with beaver, which we often used as targets. Presently walls again rose up by the river, but the transformation from the valley was so gradual that we were deep in the solitudes of Desolation before we fairly realized it. Unlike the cañons above, this one had no trees of any consequence in it, either in the crevices or on the terraces, but the rocks were almost barren for a great height. Along the edge of the water there were a few cottonwoods and box-elders. By the fourth day the cliffs were 2,000 feet high. The water had fallen considerably now, and the boats were often severely pounded on the rocks; several times they were so crushed that we were obliged to halt and wield the saw and hammer for an hour or two. Two or three trips were made up favorable gulches to the pine timber to collect gum enough to caulk the boats. Rapid followed rapid in quick succession, and while none of them were re-

markable, they gave us an abundance of hard work. Opposite one of our camps, a detached portion of the wall stood out so boldly that it was named Lighthouse Rock.

The heavy rapid where a boat was swamped on the first trip was passed, by letting the boats down by line, but we saw nothing of the guns, chronometers, etc., which had been lost then.

For 97 miles we wrestled with the river in this Cañon of Desolation, and then passed through a slight break into another very similar, 36 miles long and 2,000 feet deep. At the foot of this we were to wait, according to orders, a certain time for the return of Major Powell, and if he did not come we were to proceed and get through as best we could on what rations still remained. Our camp was at the beginning of another irregularity and expansion of the walls, called Gunnison Valley, after Captain Gunnison, who crossed here in 1853. It is 27 miles long, full of cliffs and barren rocks. The descent of the river from the mouth of the Uinta to this camp near Gunnison's Crossing, is 587 feet. Not far from us were the Azure Cliffs, extending a long distance, beautifully carved into alcoves and buttresses, and as blue as an April sky. About the time appointed our leader came, bringing with him enough rations to keep the wolf from the boats till we could reach the Crossing of the Fathers. When the men who came with him had turned to retrace their steps through the wilderness of cliffs, we launched forth once more. The valley was extremely picturesque with its peculiarly eroded buttresses and cliffs of various colors from azure to chocolate and white. One unique structure, chocolate in color, beautifully carved by the

rains of ages, especially attracted our attention because of its symmetry. It was about 400 feet high, composed almost wholly of gypsum, and was named Dellenbaugh's Butte. The mouth of the San Rafael River was just below on the right, and there we camped. The ground was strewn with chips of chalcedony, obsidian, jasper, and like stone, besides fragments of and whole well-turned arrow-heads. This had been some arrow-maker's resort, and numerous fine specimens were found of the native skill. A singular and beautiful feature of this region was observed on leaving this camp. Vertical walls of sandstone some 50 or 100 feet high bound the river in, and a heavy rain collecting on the rocky, soil-less surface of the country, rushed down every ravine and gully, leaping to the river from the cliffs in graceful cascades, which could be counted by dozens. We were now in Labyrinth Cañon. The walls ran up till at our first night's camp they had reached their maximum of 1,300 feet. The river was smooth, running swiftly but without commotion. Opposite our camp one of the most beautiful of all the rain cascades was visible, plunging over the straight cliff and vanishing in spray, to be collected on a projecting ledge and shot out again to the river. Our course was now very winding. At one place we pulled about 6 miles, and at the end were within 400 yards of our starting-point, a high wall intervening. This was called Bowknot Bend. On this dividing wall the photographer had been left at work, and when we stopped for dinner he came down to us. A day or two more, and the walls for a short distance lost their regularity, breaking into thousands of splendid columns and buttes of many

colors, and ending the 62 miles called Labyrinth. The whole country was composed of rocks apparently on end. There was no soil or vegetation worth mentioning. It is the Land of Standing Rocks. Various forms were discerned in these standing rocks as we saw them from different points, perhaps the most beautiful being that which was called the Butte of the Cross. It is in reality two buttes, one behind the other. The river still runs smoothly, and one would suppose that its wild race is over; but no, it is only preparing for the greater turmoil and trouble soon to come. We pulled along with the easy-flowing current, around this bend and that bend, everywhere having new views of the many buttes and pinnacles, till we described a beautiful curve and paused at the beginning of Stillwater Cañon. The last bend was named Bonita Bend at the suggestion of the photographer. The walls immediately began to rise as we left Bonita Bend, and for 42 miles the river was more closely bound than anywhere above. So straight were the rocks that the first night it was difficult to find a camping ground, and we drifted on between walls rising vertically from the water. The current was swift, but there were fortunately no rapids. It was almost dark before we reached a narrow strip of alluvium on the right, which offered a friendly footing and a few sticks of driftwood for a fire. The next day some ruins of stone dwellings were discovered on a projecting cliff near an alcove, the bottom of which contained soil enough to grow corn after the Moki fashion. Strange as it may seem, people had dwelt and died in this wild and almost inaccessible spot, so long ago that there is no record of them. The trunks of trees laid up against the ledges of

the cliff here and there had enabled the denizens of this secluded retreat to climb to the plateau 1,000 feet above.

Running from these ruins for about seven miles between the vertical walls on a swift, smooth current, we came suddenly to the mouth of a large cañon on the left. It was the cañon of Grand River, which here joins the Green to form the Colorado; or, as the Green is only a continuation of the Colorado, perhaps it would be better to say the Grand here runs into the Colorado. There is no break in the continuity of the walls which rise all round 1,300 feet, barren, forbidding, desolate. Two or three hackberry trees grow on scanty strips of sand at the base of the walls, but aside from them there is no vegetation. We succeeded in climbing out by a narrow gulch, and were well repaid for our trouble by the extraordinary view from above; a strange, weird view; a vast desert of barren rock; a bewildering land of spires and pinnacles, crags, crevices, and gorges. There was no earth—nothing but naked rock—and the eye returned wearied to find relief in the turbid flood, which, far below, rushed into the growing depths of Cataract Cañon. Look from any high building in New York across the city; imagine the houses a thousand feet high and every chimney and smokestack a high pinnacle of rock, the whole extending farther than your vision, and you will have some idea of the appearance of the country at the junction of the Grand and Green. When you are up you don't know where you are, and when you are down you are nowhere.

The volume of the river was largely increased by the addition of the water of the Grand, and the descent became immediately exceedingly sharp. Large rapids

abounded, and it was from their violent character that the cañon received the name of Cataract. The walls were soon 2,500 feet high and almost unscalable. We were wet, as usual, the whole day long from head to foot, and as it was now the end of September, the water was decidedly cold. The huge waves swept from end to end of our boats in every rapid. The sun shone into the gorge for only a few hours in the middle of the day, always disappearing about three o'clock, and in the cold shades our teeth rattled and our lips turned blue. With each mile of advance the scenery grew more and more magnificent; more and more terrible. The massive walls rose to 2,700 feet of perpendicular height; at some places, indeed, they overhung. One afternoon, when we had been resting on a broad beach and had concluded that it was the intention of the Major to pass the night at the place, he returned from a climb and gave orders to pack up for an immediate start. A hasty supper was swallowed, and about five o'clock we shoved out into the stream. The chasm was already darkening, and the prospect ahead appeared tenfold more forbidding than it would have seemed in daylight. One of our number hinted that we would have some lively work before we slept that night, but as we had been having lively work for some time we did not regard this as out of the ordinary. The walls, which had spread out a little, quickly narrowed up, and at the water's edge the rocks were straight and smooth on both sides. Presently a small rapid came in view. The current ran faster. We dashed through the little rapid, and the cold spray drenched me. Then the river whirled along amongst some huge boulders that towered like pinnacles out of

the water; probably they had fallen from the cliffs overhead. The current grew very swift. Just below we could see the river separate at a half submerged, rocky island and break in wild plunges against the cliffs. One glance showed that it was an ugly place, and that there was only one chance. That chance was to keep in the dividing line of the waters and effect a landing at the head of the little island. We succeeded in doing this, and then the question was how to get off, for the right-hand portion swung to the left across the foot of the island, and, joining the other, broke against the base of the left wall. While we were considering a method of procedure the clouds, drifting across the narrow opening far above, turned to gold, and in a few minutes night began to fall in earnest, thickening the gloom and showing us that if we would have fire and a dry bed no time was to be lost. Then as hastily as we could we dragged the boats down the right bank of the island till we were below the fall, and there we embarked and pulled out into the waves and current with all our might to reach the other side before we could be swept against the left wall below. It required hard pulling, but we passed nevertheless so close to the cliff that we could not use the oars on that side. But nothing was damaged, and we went on in the darkness till the sound of more falling water warned us to seek the first opportunity to go into camp for the night.

On the 29th of September we finished the 41 miles of Cataract Cañon and entered a new one, very narrow, and called Narrow from that fact. It was only 9 miles long and about 1,300 feet deep, with no difficulties. It was very straight, and we could soon see out of the end of it,

where Glen Cañon began, with what we then called the Unknown Mountains in the distance.*

At the foot of Narrow Cañon we came to the mouth of Fremont River and the beginning of what we called then Mound Cañon, but which has since been consolidated with another called Monument to form Glen, a fine cañon, 149 miles long, with generally smooth walls from 200 or 300 to 1,600 feet high. There is only one rapid of any consequence in this whole 149 miles at high water, and that is easily run, while at low water a number of shoals and diminutive rapids appear in the various channels the river takes amongst the exposed bars. The walls are often more than perpendicular and perfectly smooth, without a perceptible seam or fissure in the entire height of a 1,000 feet or more, and beautifully decorated by iron stains.

On the 6th of October we had eaten the last morsel for dinner, including some queer fish Hillers had caught, and were pulling briskly along wondering where the next would come from, when we heard a shot ahead, and presently saw a white rag dangling from a pole on the right bank. We were below the mouth of the San Juan, were nearing the Crossing of the Fathers in fact. The walls had dropped to several hundred feet, and it was doubtless possible to reach the river from the surrounding country at several points, so we kept a sharp

* These Unknown Mountains were peaks composing a short, high, nameless range that had never been visited by white men. They are now honored by bearing the name of the late Professor Henry. Mr. G. K. Gilbert, in his "Geology of the Henry Mountains," has explained the peculiar geological structure of these peaks; a structure which is so peculiar that when the first descriptions came in the geologists were puzzled, and it was not till Mr. Gilbert had spent several months in the region that the peculiarities were fully explained.

look-out, expecting to meet the men with our supplies. We hoped the shot and the rag might mean the realization of our hopes, and, on landing, the first thing that greeted our eyes was a pile of well-filled sacks. Just below was the Crossing of the Fathers. Thirty-five miles farther down, at the mouth of the Paria, we left our boats for the winter, as the water was too cold to proceed, and we would consequently carry on topographical work in the mountains to the north till the return of summer. This place is now called Lee's Ferry.

It was the middle of August the following year before we were ready to enter the greatest chasm on the face of the earth, the Grand Cañon of the Colorado, a mighty gorge nearly 300 miles long (283) and over a mile deep. The altitude of our starting-place is 3,170 feet above the sea. The altitude of the mouth of the Rio Virgen is less than 1,000. On the 17th, after shaking hands with our land party, some of whom looked as if they never expected to see us again, we pushed off and dropped down into the cañon. The walls are at first quite low—not more than 100 feet,—the walls of the last cañon (Glen) receding from the river and forming the Vermilion Cliffs, that extend in a sharp line for many miles like a huge wall, leaving the strata that run up from under them to begin the Grand Cañon. These strata run up rapidly, giving to the river the appearance of going down very fast toward the centre of the earth. We now had but two boats and seven men all told. One boat had been left behind because it was scarcely strong enough for the work, and because there was no one to man it, two men having been too ill to go on, and the third having been discharged. By dinner-time the first day we

had made five miles, with only two rapids, and one a small one, to trouble us. The walls had risen to 500 feet, and were composed of marble of various hues, except white, beautifully polished, at and near the water-level, by the action of the water, so often heavily charged with sand. As far as the mouth of the Little Colorado, a distance of about 65 miles, the walls are principally of marble, and that part has been named Marble Cañon; but inasmuch as there is no break in the whole 283 miles of this extraordinary chasm, I am inclined to consider it all one in name as well as in fact. To me the Grand Cañon begins at the foot of Glen, and ends at the Grand Wash, where the walls break away; and I can see no good reason for breaking it in two.

After dinner, we soon came to a fall of about 18 feet in 75 yards. The force of the current was terrific, for the spring flood, which had raised the river that year to unusual heights, had not more than half subsided. With each stage of water the river somewhat changes its character; at some places high water is the most favorable, at others low, though, as a rule, low water is preferable, because more opportunities are afforded for landing, and it is usually possible to guide the boats and keep them under control. It was at this rapid that a party of prospectors, who had broken open some of our hidden stores, a few months before had met with what might have been regarded as just punishment for their sins.

In their ignorant audacity they had constructed a large raft of logs, and expected to make the passage upon it. Ten in number, they started, but here the raft was demolished. By great good luck all the men succeeded in

reaching a mass of boulders at the mouth of a side cañon on the right, saving nothing but themselves. The walls were only 500 feet high, but they were so precipitous that the unfortunates made several attempts to reach the outer world before they succeeded, and then it was only by the aid of a ladder made of driftwood tied together. They will probably have more respect for the Grand Cañon, if they should ever try the passage again. Few are tempted in that direction, however. I received the other day a letter from a man in Arizona who was turning his attention that way, but some quotations from my diary of our trip caused him to refrain from any attempt at present.

We made a portage at the rapid, preferring to keep on the safe side when possible. An ounce of caution is worth several tons of foolhardiness. The next day, when we started again, we found that we were no longer on the threshold of the gorge. The walls loomed higher and more massive, if possible, as we went on, and there were rapids in abundance. At noon a stratum of soft sandstone was at the water, and it was with some difficulty that we found a place where we could stop to refresh the inner man with the customary bacon and coffee. At length a place was discovered on the left, where we could fasten the boats and climb up to a little flat place in the shadow of a projecting ledge. A glimpse could be had of a rapid not far below, and some of us climbed up to a terrace, through a crevice, to see if we could get a better view of it. How sullen it looked down there, a quarter of a mile away, plunging and leaping and glittering under the summer sun, as if poor frail humanity had no existence! We went through it easily, with the usual

experience, and longed for more to get behind us. The current was tremendous most of the time now, and the boats were carried along like straws in a mill-race. The walls, so steadily growing in height, kept up the impression we had of more rapid descent than we were actually making, and it was not difficult to picture, except for the quantity of water, a final exit into the realm of His Satanic Majesty, for whom we now felt obliged to entertain some respect. We almost seemed to be encroaching on his undesirable domain.

I once heard a story to the effect that, when the world was finished, a vast amount of material was left over, the disposal of which was a problem. Finally the Devil was summoned and presented with the refuse, to use as he should see fit. He wasted no time upon it, but tumbled it together in a heterogeneous mass, smiling with delight as he contemplated the close resemblance of what he had made to his own notorious country, and thought of the trouble it would give the children of men. But he was suddenly confronted with a serious difficulty; there was a large amount of water in the interior that must pass through his new land to the distant sea, and if it should be allowed to run as common rivers run, fertility and abundance and happiness would be established on its shores. He was in a quandary; but the Devil is persevering, and he is a capital engineer. He was not long—so the story goes—in devising a scheme that would have been worthy of a government contractor or the projector of the Panama Canal. He decided to cut a channel for the river from end to end of his realm, so deep, so wide, so inaccessible, that the worldlings would die of thirst within sight and sound of the roaring waters; and this

was the true origin of the Grand Cañon of the Colorado. It would not have surprised me to behold His Satanic Highness, sitting cross-legged on a boulder, leering at us. By the 19th the walls had increased to about 3,000 feet, and the cañon was truly sublime. Rapids were numerous and difficult. Each day there were ten or twelve, some of which we ran and some at which we made portages or let-downs. In the latter case, one man generally remained in the boat to fend her off the wall and rocks, and at the same time keep her bow so turned to shore that she could not "get the bulge" on us, as we then called it; in other words, should not get out across the current, and so either snap the line or pull the men into the river. Several times those at the line were dragged almost on their faces over the rocks, and it was only by exerting themselves to the utmost that the mastery was maintained. The walls were light red in color, stained by the disintegration of beds above containing iron, and in many places were eroded into galleries, and balconies, and alcoves, and Gothic-like cavities, that added wonderful variety and beauty.

Next to Lodore, this portion of the cañons is, in my opinion, the most beautiful.

There were one or two rapids to the mile, but they were often so free from rocks, that the boats dashed through like ducks, quivering under the deluge, but keeping right side up. Had our boats been poorly constructed, we would have been overwhelmed with disaster, but the builder was honest, and the model was good. They could not sink, it will be remembered, on account of the water-tight compartments, and the cargoes kept them steady, preventing capsizing; but adding several barrels

of water to our load brought them down till the gunwales were almost level with the surface of the river.

The walls continued to go up faster than the river went down, the cañon was not wide, and in places they seemed almost ready to join together overhead and exclude the daylight. Do not get the impression that these cañons are dark in the daytime, for they are no darker than the shady side of a street, and the sun shines into them more or less, according to the trend of the cañon and the season of the year. I have read of people who had been in cañons so deep and narrow that they could see stars in the sky above at noon. I have seen a good many cañons, but I never saw stars from any of them, except at night.

On the 22d of September the scenery assumed such gigantic proportions, the river ran with such fearful velocity, dropping in one sharp rapid after another in quick succession, that it was difficult to realize that we were still in the common world, and had not slipped unawares, in some extraordinary and unaccountable way, out of it to some undiscovered and tenantless planet. The cañon was wider; but even finer on account of the extra width, for we were able to appreciate the great height. How insignificant is man in such a place! At one time the mighty torrent appeared to be plunging down a continuous declivity, with sharp rapids here and there caused only by obstructing boulders—a wild race to the sea.

The water roared, and boomed, and seethed, and boiled, and tumbled, and dashed in frantic spray, fretting itself in a thousand mad writhings as it rushed down without a check. Sometimes we could barely control the boats. Once we were borne swiftly, irresistibly toward a place where a great surging and breaking indicated rocks near

the surface. It was impossible to avoid it; and the speed of our craft was such that a collision meant annihilation. There was nothing to be done but wait. We rested on our oars. On sped the boat. She plunged into the boiling mass, and went through it without a bump—the rocks were too deep to strike us. On we went without dipping an oar, except for guidance; on—on—on, down—down, ever descending with terrible velocity along with the furious flood, the din of the reverberating roars filling the cañon, fairly stunning the ear, and seeming to batter against the fair blue sky spanning from brink to brink, nearly 4,000 feet above.

Through an occasional side cañon we could catch a glimpse of cliffs farther back that would soon add 2,000 feet more to the already giant proportions of the chasm. To say it was magnificent but feebly expresses it. Toward evening one day the river seemed about to disappear under the great walls that loomed up before us at the end of a long straight stretch of river, gloomy and sombre at the bottom, but painted with fire at the top by the red sunset. At the end of this descent, we came suddenly upon the mouth of the Little Colorado or Flax River, and went into camp there. It had been a good day for us; in 18 miles we had run 18 rapids, one fully $2\frac{1}{2}$ miles long, between walls that for sublimity can have no equal on the globe. We had descended 480 feet in $65\frac{1}{2}$ miles; not so rapid a descent as in Lodore or even Red Cañon, but more formidable on account of the nature of the walls, the abruptness of the rapids, and the greater volume of water. We were still 2,690 feet above the sea.

The Little Colorado, an insignificant though lengthy

stream, entered through a close cañon 4,000 feet deep. This locality has figured for years in many a miner's yarn, because of its inaccessibility; and scores of men have known that mines of fabulous wealth existed here.

About five miles below the cañon widens and the walls rise tier on tier and terrace on terrace to over 5,000 feet. Masses of igneous rock protrude here from the bottom. This is an extremely interesting region geologically as well as geographically, and I refer those who would like to fully understand it, to the excellent work by Captain C. E. Dutton, on the "Tertiary History of the Grand Cañon."

This part of the cañon is several miles wide at the top, and were it not for the immense height and unbroken precipitous character of the walls, it could properly be called a valley. Two great hollows on the north that help to make this expansion are named respectively Nankun-to-wip and Kwagunt valleys, the names the Pai Utes living on the plateau have given to them.

The cañon, it must be borne in mind, is almost entirely without vegetation and animal life. At one place we passed a green spot on the right wall formed by a spring gushing out about 100 feet above the water and trickling down amongst masses of ferns, mosses, and other small plants, and in places the mesquite trees grew to some height amidst the rocks beside the river. The only animals we saw, besides a few small birds and several ravens, were two mountain sheep, drinking at the river in the widening of the cañon. They fled at sight of us, as if they too were merely explorers, and disappeared over the crest of some distant high rocks. From the brink above in this vicinity, the best extensive view of the chasm is to

be had. It is reached on the south from Flagstaff, Atlantic and Pacific Railway, and on the north from Kanab. The greatest depth is 6,300 feet.

The lower portion of the wall soon turned to granite (metamorphic crystalline schists), jutting out in innumerable buttresses, into the narrow river, and as this granite ran up the cañon assumed a sombre look, for the granite was very dark in color, almost black. It reached at length a height of about 1,000 feet, and generally shut out any view of the higher walls except at the bends. The character of the river changed with the change in the walls. There would sometimes be no perceptible descent for a long distance, the water running with a smooth current, when there would come a sudden plunge; not vertical but very abrupt. The landings were difficult, and there was often nothing but sharp rocks to camp on.

On the 29th, about dinner-time, we reached the ugliest looking place I ever saw. The first 1,000 feet were of granite, as in the last view. Landing-places were not frequent, and a deep roar far ahead, the cause of which we could not see, suggested a cautious advance and an early stop. A few broken rocks protruded from the water at the foot of the right wall, and pulling to them we made the boat fast. The roaring was now terrific, but, though the river disappeared from sight 100 yards below, we could not get a view of the trouble from our low position in the boats. As I stepped up on a large boulder I beheld a scene I hope never to see again under like circumstances. The hard black walls rose almost vertically on each side, rough and ragged, and for half a mile the descending torrent, compressed into narrow limits, was surging, and booming, and lashing

itself into a solid mass of boiling foam. There was no choice; we must take our chances and go through it.

Some bits of driftwood on the rocks furnished a small fire, and Andy got dinner as well as he could by it, while the rest of us made the boats snug and attended to other duties. A full stomach is a great encourager, and after our bacon and coffee the undertaking did not seem quite so formidable. The second boat was to remain where she was till we were fairly through, so that there would be no chance of collision, and that in the event of our meeting with the success we anticipated we would be in a position to render any necessary assistance to our companions.

When all was ready we pulled up stream, close to the wall, for about a quarter of a mile, the current being quite slack there, and then our bow was turned suddenly out, and we put ourselves as quickly as possible in the middle of the river. The roar grew louder, louder, nearer, nearer. I felt like glancing around to see how it looked, but every thing might depend on a single stroke of the oars, and I held mine ready to execute any order on the instant. We neared the brink of the descent. "Back water!" shouted the Major, and we backed water with all our strength to lighten the shock. Our speed began to accelerate. There was a sudden dropping, a sudden giving way of support, as if the world had been knocked out from under us, and the boat started like a wild locomotive at terrific speed down the incline. The water broke over us in floods. The terrible gorge was transformed into chaos. "Bail!" shouted the Major, "bail for your lives!" We plied the kettles as vigorously as we could in such a tossing shell, but for every

gallon thrown out, whole barrells swept us from end to end. The boat plunged, and rolled, and rocked, and twisted; sometimes just grazing a huge black rock seen through a canopy of foam. In less than a minute we were through and lying in an eddy below, bailing out and watching for the other boat. We saw her presently appear at the brink, and then she was lost to view amid the spray and foam, till she ran safely alongside. From below, the rapid had even a more forbidding appearance than from above. It looked like a vertical wall of foam, but then we looked at it with different eyes; there was no possibility of going up it. The descent here was probably not less than 60 feet. Some of the men called it the "Sockdologer."

Thus we proceeded through this sublime gorge, sometimes making successful runs, sometimes laboring a whole day to advance a few hundred yards. On one occasion we worked hard till one o'clock in the afternoon to gain 600 feet. Well do I remember this day. At one time I was sent in a boat to keep her steady, while the remainder of the party, at the end of 200 feet of rope, picked a precarious path along the face of the cliff 100 feet above. It was not a pleasant situation either way; they might be pulled off, and if they were I should have been compelled to navigate alone what we did not care to navigate together. It was discovered then that the boats were so badly bruised that repairs would be necessary before going on, so at a convenient pile of rocks they were hauled up and the saw and hammer brought out.

As the day declined the river was found to be rapidly rising and submerging the rocks on which we had been at work. Night was falling, and it was too late to go

on, but luckily there was a ledge about 20 feet above that we could reach, and to this we passed our supplies. The river continued to rise. The surging water crowded us back against the wall. The boats would be pounded to pieces if left here, so by means of ropes they were hoisted about 6 feet up the side of the cliff, and the lines made fast to crags above. By climbing from the ledge around a sharp projection, a wider place covered by broken rocks was discovered, and there we camped. A few half dead mesquite bushes afforded fuel for a sickly fire, over which Andy, the indefatigable, patient Andy, managed to bake bread for our supper. Every thing was wet, for there was rain at intervals. Just before dark the river began to rise faster; it came up four feet in one hour. We speculated on what was to be done if this should continue all night. The rocks were sharp under our blankets that night, but for my part I slept soundly; I could not help it; I believe I could have slept on a cactus bush. The morning broke gloomy, damp, heavy. As quickly as possible we ate breakfast, such as it was, and then lowered the boats. The water had fallen a little, but they bounced about impetuously, though a man in the river at each did his utmost to steady her. The footing was narrow. They were in danger of smashing. It was found that one still leaked badly; a stream as large as three fingers spurting into the middle cuddy. There was no time and no place for further repairs. We were half way through a heavy rapid, and would have to pull straight out into the river from here, notwithstanding the rocks below. We were in a trap. A sack of flour was jammed against the aperture; rations, guns, cooking utensils, photographic materials, etc., were tumbled in,

any way to get them in quickly; the hatches were battened down, we jumped to our oars, and the man keeping her steady let go. The fierce current seized us and swept us down like a feather. We pulled like madmen; we cleared the threatening rocks; we gained the centre of the river, where our water-logged craft rolled and plunged as if she meant to go to the bottom the next instant. At the first available spot a landing was effected, and boat and cargo were dried out.

September 3d was one of our eventful days. About eight o'clock in the morning we started to run a rapid, of which no good view was obtainable, though we climbed high on the rocks. No sooner were we in the swift water above it than the dangerous character of the place was apparent. It was impossible to avoid going over. The boat gave a single wild leap, and then deluge after deluge rolled over us. A huge wave struck the boat a hard blow on the port bow, and with a quick careen she turned upside down. I grasped impulsively for something to hold on to as I felt myself going down, and was fortunate enough to clutch a spare oar fastened to the outside of the boat. I pulled myself up and glanced around. Not a soul was visible. There was the boat bottom up; there was the receding rapid; there was the dark bend below; and there were the black walls shutting all in; a scene of the wildest grandeur and desolation, with the upturned boat floating along like a worthless, insignificant chip. The other boat had not yet come in view. My companions soon rose to the surface close by, though to me those few lonely seconds seemed minutes, and sighting the boat we pulled immediately to the left wall, where we made fast to a little projection

and paused for breath. The second boat at length arrived, with no other misfortune than the loss of two oars and a rowlock.

In the afternoon of this same day we manoeuvred in and out of the alcoves of the granite for a long time to get to the head of a bad rapid, but missed the landing after all. As the boat drifted close to a rock I tried to jump to it, but a lurch at that moment sent me instead into several fathoms of water. I clung to the line and was quickly on the surface again. I lost no time in getting to the boat, which was rushing stem foremost toward the rapid. At this moment two others jumped for some more rocks at a jutting point, intending to stop the boat, but she was going fast now. I climbed in and felt better when I saw that the other oarsman still remained. Together we succeeded, with great effort and good luck, in dropping the boat behind a large rock on the left bank at the very brink of the descent, so that we did not run the rapid stem foremost, as seemed, at first, inevitable. The next morning we lost all control of the boats for four miles, and, though there were no bad rapids, the river whirled, and eddied, and boiled, and broke into great spinning whirlpools that tried their best to suck us under. From one side of the river to the other we went, turning round and round in spite of our efforts to keep straight. At last we ran the granite under, and rejoiced to see the bright-hued, cheerful sandstones again at the water's edge. The river was still rising, and the current was extraordinarily swift.

Several small creeks, heading in valleys back from the river, came in sight. These valleys were really only lateral cañons in the lower tier of walls, which were

about 4,000 feet high, the other 2,000 being left in the background. Along some of these little streams ruins of stone dwellings were found, with fragments of pottery strewn the ground, showing that human beings had long ago found a home in these depths so difficult of access. The ruins were of large stones neatly dressed, and corresponding with the better class of southwestern ruins. They were overgrown with cactus and mesquite.

We were nearing the mouth of the Kanab Cañon now, and, on the afternoon of the 7th, as we were moving down with a swift current and viewing the splendid walls, we saw a narrow cleft on the right, and, almost at the same instant, heard a wild yell that resounded from cliff to cliff. Looking in that direction we discovered it came from the base of the cleft or side cañon, where an apparently diminutive figure like a man was standing on a boulder frantically waving his arms above his head.

Nearer, the object was seen to be in reality a full-grown man, and no small specimen at that ; not a wild one either, but the leader of our pack train. He was delighted to see us, for we were seven days overdue ; and as an old shirt Andy had cast away had been washed ashore here, he thought we had been wrecked, and he was about to abandon the watch in this lonely place, where the sun came only for a brief visit each day at noon, and return up the Kanab Cañon to the distant Mormon settlement he came from. He had brought his mules and men down with great difficulty, for the distance to the open country, up the bed of this side cañon, was over 50 miles, part of the way through running water. We ran the boats a few yards up the side cañon and camped on a sandbank. The next day was Sunday and all took a rest. The

main part of the work was done ; the remainder of the Grand Cañon would be easy because the descent was not great. We had travelled 108 miles since leaving the Little Colorado (or $173\frac{1}{2}$ from the head of the cañon), leaving $109\frac{1}{2}$ miles to the end of the cañon, the Grand Wash. The altitude of the mouth of Kanab Cañon is about 1,400 feet, that of the Little Colorado 2,690. We had descended then nearly 1,300 feet in the 108 miles, and, as the altitude of the Grand Wash is 1,000, there only remained some 400 feet for the $109\frac{1}{2}$ miles. The total descent from the head of the cañon, about 173 miles, had been nearly 1,800, while the grand total from Green River station was about 4,700. These figures tell the character of this river almost as well as words can describe. With only about 400 feet more to descend, and with over 100 miles to do it in, we anticipated for the rest of the voyage comparatively easy work. But there was one very bad place—the rapid where the three men of the first party lost courage. There the dreaded granite comes up again ; and we knew it took something extraordinary to balk such men as they were. The walls range, the whole distance, from 4,000 to 5,500 feet, and though they are nowhere equal to those above, they are scarcely less wonderful and magnificent.

On Monday morning at breakfast, just as we were thinking about packing the boats to go on, our captain surprised us with the announcement that we would quit the cañon here. The extreme high water, he said, meant certain destruction at the bad fall ; it would be foolhardy to go on knowing this. Information reached us, too, of some discontented Indians living on the brink farther down who had planned an ambush for us. We could

have gone to the end in a few days; and sometimes I regret that we did not risk it. The water fell rapidly after we had left the cañon, and probably we would have been successful at the bad rapid; while so far as the Indians were concerned, we were amongst them a few months later and had no trouble. But who can tell?

We unloaded the boats where they were and prepared for the journey up the Kanab Cañon to the Mormon frontier village of Kanab. It seemed hard to abandon our good friends, the boats, to their fate; and I cast back a last glance at them as we rode away. Three years later I made my way again to the spot. The boats had disappeared and no vestige of our presence remained save the Major's old chair, and one of the hatches. That journey out from the river; shall I ever forget it! Owing to the unexpected turn of affairs, I was obliged to content myself with riding a pack-saddle, with ropes for stirrups, on a horse that had a trot like a trip-hammer; but as there was not much opportunity amongst the rocks for trotting, it did not matter. Yet, the last day, I rode 40 miles on this fiendish combination, and had just enough vitality remaining on reaching Kanab to throw my blankets on the ground and crawl into them, knowing no more till I awoke in the bright sunlight, feeling very much as if our wild boat journey down the Great Walled River had been a dream.